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Citation for published version:

McLachlan, F 2018, Destinations and Directions: Colour and wayfinding for a dementia ward. in *Proceedings of the International Colour Association (AIC) Conference 2018*. International Colour Association (AIC) , pp. 645-650, AIC Conference, Lisbon: Colour and Human Comfort, Lisbon, Portugal, 25/09/18. <<http://www.aic2018.org/>>

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

Proceedings of the International Colour Association (AIC) Conference 2018

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Destinations and Directions: Colour and wayfinding for a dementia ward

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ABSTRACT

Guidelines for the design of dementia care facilities tend to focus on colour contrast, often simplistically interpreted as a contrast in hue. Without the involvement of design professionals, the use of guidelines can lead to homogenous, monotonous and under-stimulating environments. Even as spatial orientation declines as the disease progresses, certain abilities, which allow for navigating space, may remain resilient, and it is accepted that further research on wayfinding using colour and 'landmarks' is required. The paper will discuss a live project for a colour installation within the male dementia ward at the Royal Edinburgh Hospital, with reference to the three main user groups: staff, carers and patients. It will suggest that design specificity in response to place and people, supported by knowledge of the potential of colour to modify space, can enhance the everyday lives and wellbeing of long term building users.

Keywords: *Colour, dementia, wayfinding, design, live project*

INTRODUCTION

This paper discusses a colour intervention at the Pentland dementia ward at the Royal Edinburgh Mental Health Hospital. The design was developed in consultation with a group of patients' family members and nursing staff, and installed as part of an architecture student 'Live Project' led by the author. The project was partly prompted by a sense that, despite evidence-based design guidance, in practice, such 'toolkits' may be interpreted and applied uncritically, often with minimal professional design input, and largely without reference to the specific context. In relation to colour design, dementia care facilities tend to focus on contrast, often simplistically interpreted as a contrast in hue. Although well intentioned, guidelines can be applied

dogmatically- leading to characterless, monotonous and under-stimulating health care environments.

DESIGN FOR DEMENTIA

As an architect, a natural starting point for any design is the specific context. This will include the function of existing spaces, the physical configuration, attributes and material surfaces of the building, as well as the environmental qualities of artificial light, sunlight, and orientation. The social context of the users is also a consideration, and in the case of the Pentland ward, this is focused on the care of people with dementia who exhibit high levels of stress and distress. The ward provides accommodation for 12- 14 male patients, most of whom will remain in the care of the hospital for the rest of their lives. Dementia is recognised as a growing societal issue, '*...in 2009, the World Alzheimer Report estimated that worldwide there would be 36 million people living with dementia in 2010, increasing to 66 million by 2030 and 115 million by 2050*' (Downs, M, & Bowers, B 2014, p8). In most cases, it would be preferable to support independent living in community care homes or at home, rather than in a hospital environment, but the Pentland ward patients will have been admitted because of their need for medical and nursing support. The men are all at different stages of the illness, with different abilities and symptoms. Chalfont and Rodiek (2005) have suggested that an inclusive approach to the design of satisfying and pleasurable spaces for all users is preferable to a focus on environments designed to limit challenging behavior in patients.

The ethos of the ward is extremely important, and is summed up by the chief staff nurse, '*we are interested in supporting each patient as an individual. What may work for one person, may not for another, but if it works even for just one person, then something is worth doing.*' (Charleston, 2018)

Nursing staff try to remain calm and supportive, often following the lead from the patient, rather than enforcing particular regimes. The ward has taken the opportunity to work on a number of collaborative projects through creative arts organisations, most notably, Artlink, an arts and disability organisation who have a base in the hospital grounds. These tended to be activity-based projects such as the construction of a timber geodesic dome by one patient working alongside a sculptor. The current project shifted the focus from patient activity to the immediate environment of the public areas of the ward. Individual bedrooms are private and so were not part of the project. Unusually perhaps, the chief staff nurse is given authority to operate the ward in relative freedom and readily agreed to the colour installation. He was keen on the idea to break up the monotony of the ubiquitous pale yellow wall colour, to make the environment 'more welcoming for families and staff as well as for the patients' (Charleston, 2018). McManus and McClenaghan, noted that,

'...therapeutic environmental design is an important factor in maximising the functioning and quality of life of people with dementia. The quality of the environment has the greatest impact on those with the least physical and/or mental capacity, so good design may compensate for impairment' (McManus and McClenaghan, 2010 quoted in Pollock and Fuggle,(2013), p438)'

A key factor for the staff nurse was that a group of young staff had started in the ward in the autumn of 2017, and he felt it was vital to give them a positive formative experience of working with patients with dementia, which they could take forward in their future careers. In addition,

the ward was not designed specifically for patients with dementia but had been repurposed two years previously.

Circulation routes were confusing and disorientating, with a long internal corridor, incorporating several changes of direction. Lighting levels are poorer than would be the norm in a purpose designed space. Spatial disorientation and a decline in wayfinding abilities are common early symptoms of the disease, (Marquart, 2011). The provision of distinctive cues at decision making points is noted by Chmielewski & Eastman (2014), while O'Malley, Innes and Wiener (2017) propose that memorable landmarks can act as beacons to aid navigation.



Figures 1 and 2: Circulation before installation, students painting.

COLOUR DESIGN PROCESS

A vital part of the colour design was to develop methods of communication and consultation with users. Although most participants experience the environment of the ward on a daily basis, this familiarity may mean that their observation of the environment is dulled. The first technique adopted for this project made use of a perspective plan view of the ward taken from a simple a three-dimensional computer model. Ward staff and family members in the carer's forum were asked to draw directly onto individual copies of the drawings to highlight specific areas they felt were problematic, and to try to articulate their reasoning. The drawings produced a remarkable consensus, and the design was then able to focus on areas identified most consistently by the users.

At both extreme ends of the ward the corridors terminate in 'dead ends'. In one of these, a dark red and brown doorway to a patient's room attracted other patients who rattle on the door handle, went into the unlocked bedroom, or simply get stuck in the corner (Figure 1). Each instance required a staff member to retrieve the patient and this repetitive activity was clearly identified as a key concern for nursing staff. The rattling of door handles is also noisy and can lead to stressful situations. Although my initial observation was that the men tend to wander round and round, it became clear that, with the exception of the two dead ends, they are not necessarily disorientated, but simply taking the opportunity to walk about the ward. The second most identified issue was the lack of differentiation. This was the case both within the main circulation spaces, and also in the public rooms.

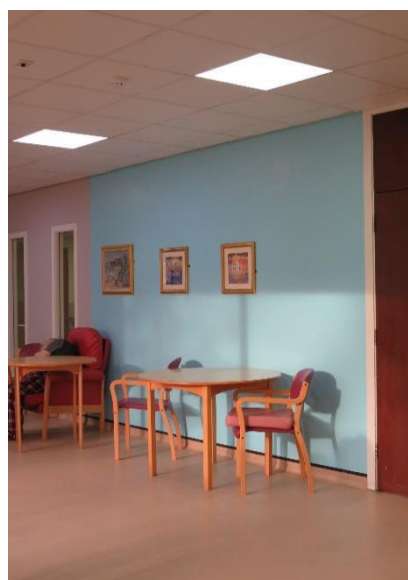
The colour design developed to address these issues, and to reflect the specific architectural and environmental context of each space. Observation included monitoring the sun path, light quality, and room usage. Rather than use architectural plans or computer visualisations, hand

sketches proved to be very effective in communicating the conceptual ideas, along with small swatches of possible paint colours. Newsletters at regular intervals kept staff, visitors and carers informed of the project and invited questions. Two themes emerged, which have driven the design response, namely '*destinations*' and '*directions*'. The ubiquitous, pale yellow walls throughout the hospital make every space look similar and feel characterless. Carers emphasised a need for spaces that are joyful, homely and more sophisticated, and small places within the circulation areas where they can sit with their relatives. The concepts behind the design, and the proposed colour palette, were explained to staff and to carers in the ward, after which the sketches were pinned up in the relevant spaces around the ward.

STUDENT LIVE PROJECT

A particular innovation of the project was to involve architecture students in the process of design and installation. The live project was used as an educational tool for students who were studying colour for the first time, and who volunteered to paint the ward. Each intervention demonstrates different potential uses of colour, for example; spatial adjustment, (colour taken round an internal corner to suggest volume and depth); contrasts in light reflectance; defining spaces with different colour palettes to give character; and the strategic placement of decorative graphic motifs within the circulation areas. Finally, elements of saturated colour were used strategically to attract the eye and foreshorten the view.

The students produced large sample panels using rollers and test pots of coloured paint. We then visited the ward so that the students could understand the existing situation, meet the patients and pin up the large sample panels in the appropriate locations. These were left in place for around two weeks to allow all users to experience the proposed palette and how the colour changed through the day and with weather conditions.



Figures 3 and 4: Completed installation.

CO-DESIGN - ADJUSTMENTS TO THE COLOUR PALETTE

As a result of the sample panels, and following feedback from consultations in the ward, a number of adjustments were made:

- the warm terracotta colour was thought to be too dull when seen in the flat light of the fluorescent lights and was replaced by a stronger, brighter red. This request was contrary to the dogma that the colour red has a tendency to stimulate and is therefore not appropriate in a health care context. In the case of this long-term dementia ward, the carers craved a more joyful environment. The existing pale yellow and mustard walls may be perceived as even less colourful by the aging eye. The introduction of vivid blocks of colour at key intersection responded to both these concerns
- The mid green was not popular, while the purplish-grey was universally welcomed. The large panel at the ward entrance was therefore changed from green to the purplish-grey
- during the installation two further adjustments were made to the extent of the coloured panels, in both cases increasing the area of the new insertion as confidence grew.

RESULTS AND DISCUSSION

Feedback from the users was gathered by a questionnaire and semi-structured interview. The most remarkable finding was that the men were no longer prone to stand in the corners. The strong red and patterned panel acts as a beacon and is sufficiently memorable to deflect the patients at the most confusing intersection. 'Incidents', which must be formally reported, have also substantially reduced since the installation. Although this could be due to a number of factors, staff cited that the patients are making more use of the 'living area', which is seen as less institutional and more homely than previously. When staff morale is good, they are more likely to be calm and to take things slowly with the patients, which instils more calmness. Patients will also sit with relatives in the circulation areas as well as within private rooms. The dispersal of the patients around the ward can diffuse tension, and therefore reduces the number of incidents between patients. Since the installation was finished, the staff have added some more graphic elements of their own, such as a memory tree and poems on the wall surfaces.

CONCLUSION

The general thrust of recent research has been to support a shift from a medical terminology of dementia as a condition, to consideration of the quality of everyday living and working experiences for all building users. While published guidance documents may be carefully nuanced in their understanding of colour – this paper has highlighted the need for an integrated approach to colour design beyond the 'tick box' application of a reductive set of principles. In relation to the design of spaces for people with dementia, these may be used uncritically and largely without reference to the specific context, leading to under-stimulating, monotonous environments. The demonstration project considers a more holistic design process, which included the family members and staff in the development of a distinctive design, and the potential for education in colour design through making in a live student project.

ACKNOWLEDGEMENTS

With thanks to Trevor Cromie (Artlink), Frank Charleston (Chief Staff nurse), the staff, carers and patients in the Pentland ward and the architecture students who helped with the installation. The project was funded through a University of Edinburgh Innovation Initiative Grant.

REFERENCES

- Chalfont, G. E., and Rodiek, S., 2005, *Building Edge: An Ecological Approach to Research and Design of Environments for People with Dementia*, *Alzheimer's Care Quarterly*, 6(4):341–348.
- Chmielewski, E., & Eastman, P. 2014, *Excellence in Design: Optimal Living Space for People with Alzheimer's Disease and Related Dementias*. Available from <https://alzfdn.org/wp-content/uploads/2017/11/Excellence-in-Design-white-paper-June-2014.pdf> [Last accessed 26.05.18]
- O'Malley, Innes and Wiener, 2017, *Decreasing spatial disorientation in care-home settings: How psychology can guide the development of dementia friendly design guidelines* in *Dementia*, 16(3) 315–328.
- Downs, M, & Bowers, B., 2014, *Excellence in Dementia Care: Research into Practice*, Milton Keynes: McGraw-Hill Education.
- Fuggle, L., Pollock, R., 2013, *Designing interiors for people with dementia* (Fourth ed.). Stirling: Dementia Services Development Centre.
- Pollock, A., & Fuggle, L., 2013, *Designing for dementia: Creating a therapeutic environment*, *Nursing & Residential Care*, 15(6), 438-442.
- Marquardt, G., 2011, *Wayfinding for People with Dementia: A Review of the Role of Architectural Design*, *HERD: Health Environments Research & Design Journal*, 4(2), 75-90.